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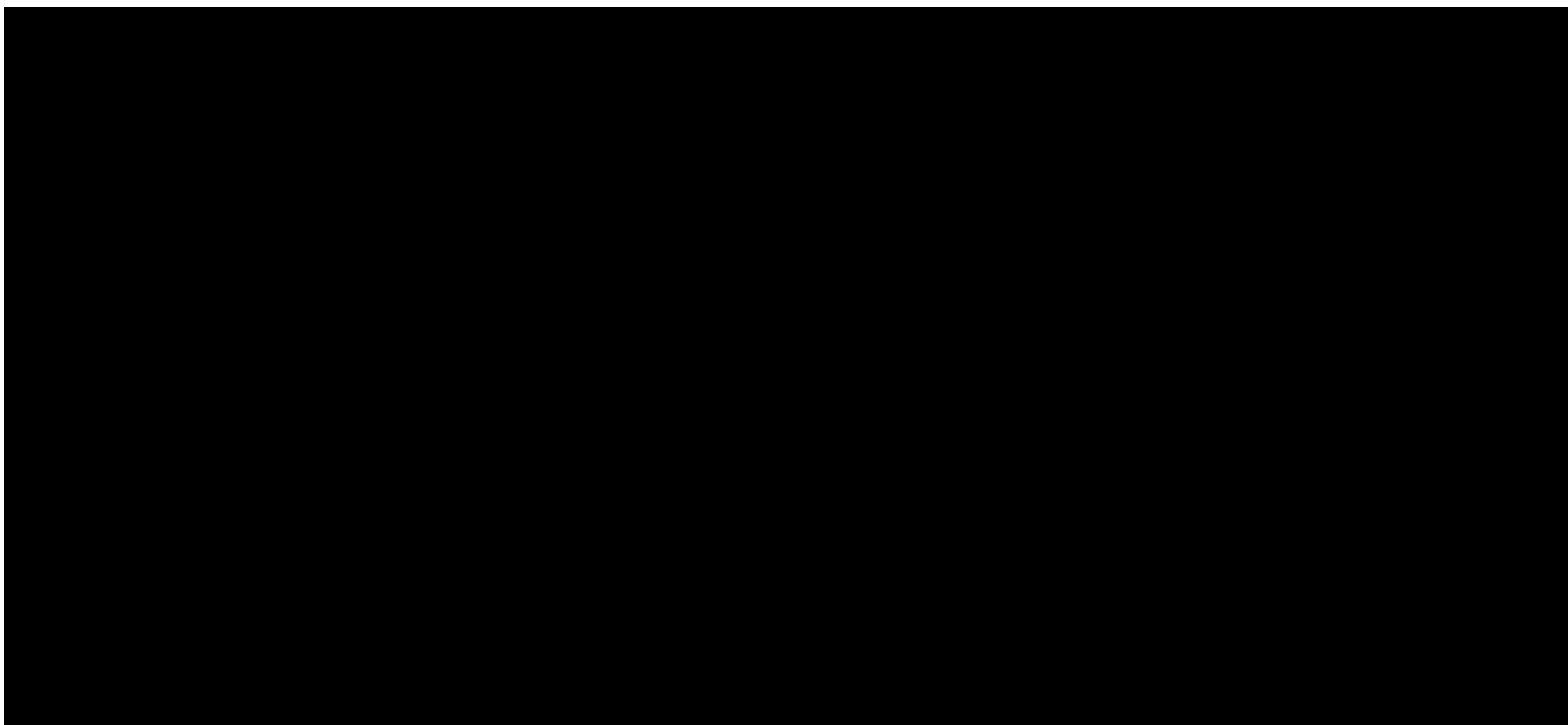
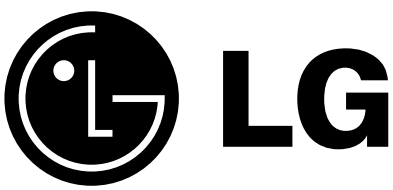
WASHING MACHINE
SERVICE MANUAL

⚠ CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE
PROBLEMS CORRECTLY BEFORE SERVICING THE UNIT.

MODEL: WD(M)-12270(5)BD / WD-12270(5)FD





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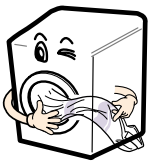
1. SPECIFICATIONS

ITEM		WD(M)-12270(5)BD, WD-12270(5)FD
COLOR		BLUE WHITE
POWER SUPPLY		AC 220-240V~, 50Hz
PRODUCT WEIGHT		86 kg
ELECTRIC POWER CONSUMTION	WASHING	200 W
	DRAIN MOTOR	37 W
	WASH HEATER	2200 W
REVOLUTION SPEED	WASH	42 rpm
	SPIN	1200 rpm
CYCLES		9
WASH/RINSE TEMPERATURES		5
SPIN SPEEDS		5
OPTIONS		Bio, Soak, Pre Wash, Rinse+Spin, Spin Only
CUSTOM PROGRAM		Incorporated
WATER CIRCULATION		Incorporated
OPERATIONAL WATER PRESSURE		30-1000 kPa
CONTROL TYPE		Electronic
WASH CAPACITY		10 kg
DIMENSIONS		686 m(W) x 767 m(D) x 982m(H)
DELAY WASH		From 3 hours to 19 hours
DOOR SWITCH TYPE		PTC + Solenoid
WATER LEVEL		10 steps (by sensor)
LAUNDRY LOAD SENSING		Incorporated
ERROR DIAGNOSIS		Incorporated
AUTO POWER OFF		Incorporated
CHILD LOCK		Incorporated

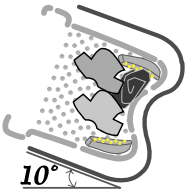
2. FEATURES & TECHNICAL EXPLANATION

2-1. FEATURES



■ Direct Drive System

The advanced Brushless DC motor directly drives the drum without belt and pulley.

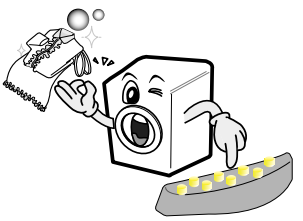


■ Tilted Drum and Extra Large Door Opening

The tilted drum and extra large door opening make it possible to load and unload easily.

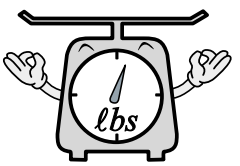
■ Water Circulation

Spray detergent solution and water onto the load repeatedly. Clothes are soaked more quickly and thoroughly during the wash cycle. Detergent suds are eliminated more easily by the water shower during rinse cycle. The water circulation system uses both water and detergent more efficiently.



■ RollerJets

The washing ball enhances wash performance and reduces damage to clothing. The jets spray and help tumble clothes to enhance washing performance while maintaining fabric care.



■ Automatic Wash Load Detection

Automatically detects the load and optimizes the washing time.

■ Built-in Heater

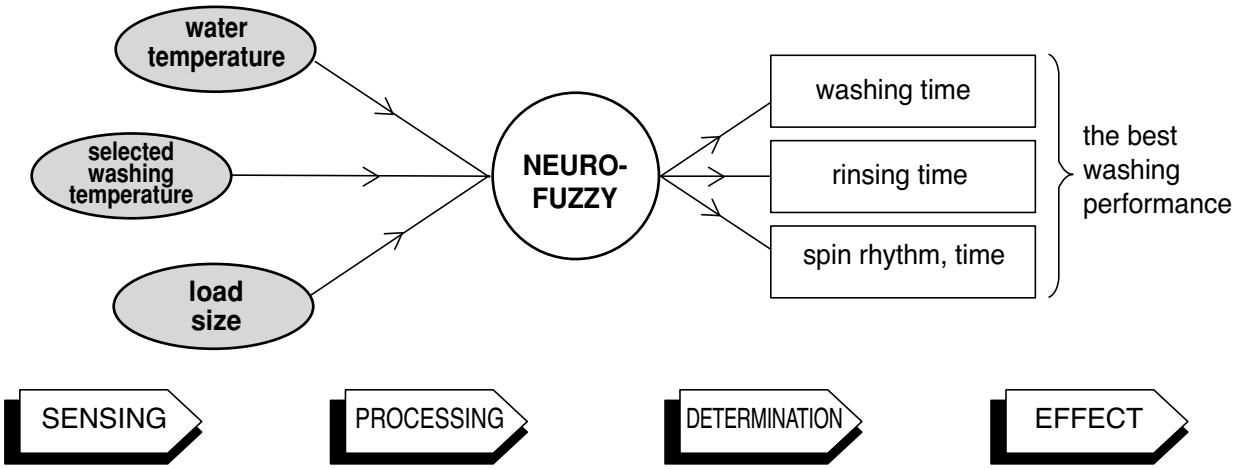
The internal heater automatically heats the water to the optimum temperature on selected cycles.

■ Child Lock

The Child lock feature prevents children from pressing any buttons to change the settings during operation.

2-2. NEURO FUZZY WASHING TIME OPTIMIZATION

To get the best washing performance, optimal time is determined by the water temperature, the selected washing temperature, and the size of the load.



2-3. WATER LEVEL CONTROL

- This model incorporates a pressure sensor which can sense the water level in the tub.
- The water supply is stopped when the water level reaches the preset level, the washing program then proceeds.
- Spinning does not proceed until the water in the tub drains to a certain level.

2-4. DOOR CONTROL

- The door can be opened by pulling the door handle whenever washer is not in operation.
- When the cycle is completed, the DOOR LOCKED light will turn off.
- If a power failure has occurred while in operation, the door will unlock after 5 minutes.
- Clicking sounds can be heard when the door is locked/unlocked.

2-5. THE DOOR CAN NOT BE OPENED

- While program is operating
- When a power failed and power plug is taken out in operation
- While Door Lock lights turn on.
- White the motor is in the process of intertial rotating, through the operation is paused.

2-6. DOOR LOCKED LAMP LIGHTS

- When the frequency of water level is lower than 22.9 kHz
  (It can be canceled when the frequency is more than 23.8 kHz)
- When the temperature inside the tub is higher than 45 °C and water level is not 25.5 kHz
  (It can be canceled when the water level is 25.5 kHz or the temperature inside the tub is lower than 40 °C)

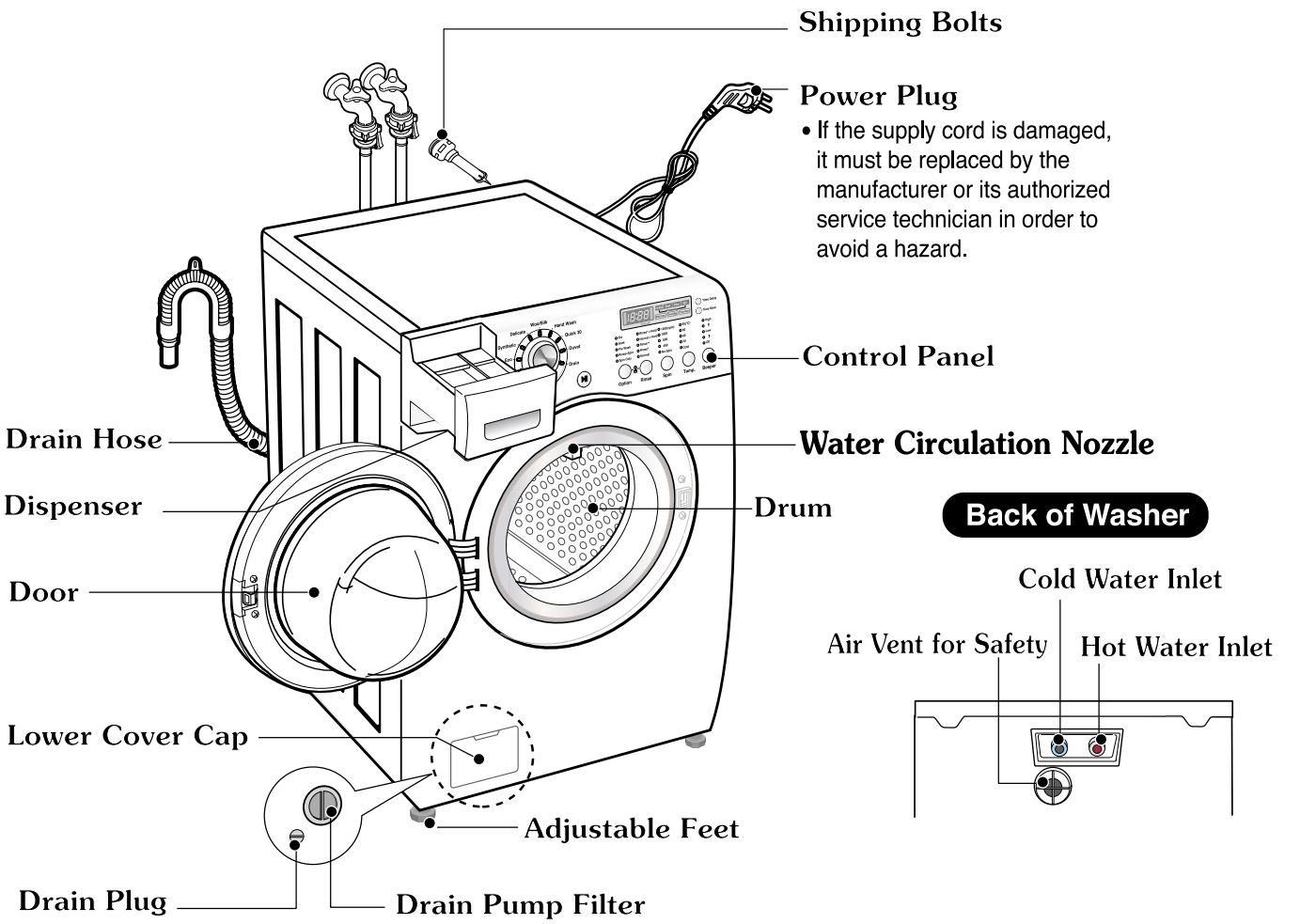
2-7. CHILD LOCK

- Use this option to prevent unwanted use of the washer. Press and hold Option and Rinse button for 3 seconds to lock/unlock control.
- When Child lock is set, CHILD LOCK lights and all buttons are disabled except the Power ⏻ button. You can lock the washer while it is operating.

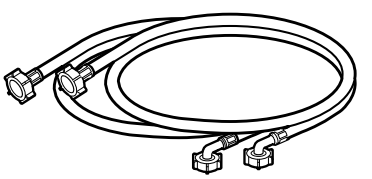
2-8. WATER CIRCULATION

- When Washing and Rinsing function of shower at the upper part of Gasket.
- When Washing, it continuously operates for 3 minutes and intermittently.
- When Rinsing, it continuously operates after completion of water supply.

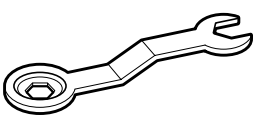
3. PARTS IDENTIFICATION



■ ACCESSORIES



Inlet Hose (1EA)
※ Option Hot/Cold (2EA)



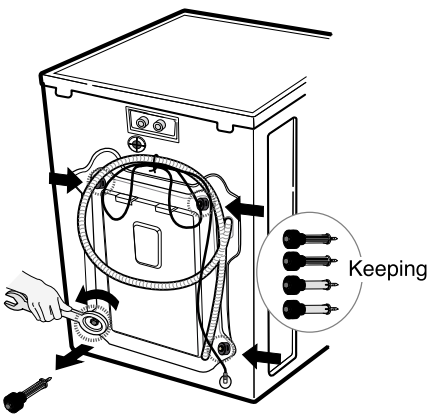
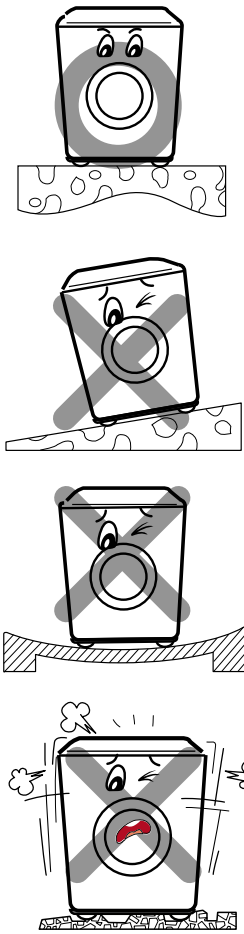
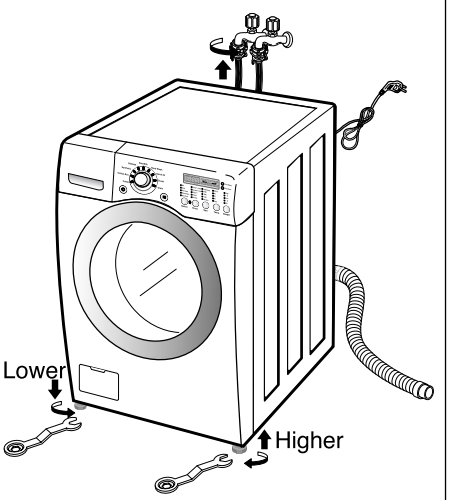
Wrench

4. INSTALLATION & TEST

1 Before servicing, ask the customer what the trouble is.
2 Check the setup (power supply is 220-240V AC, remove the transit bolts....).
3 Check with the troubleshooting guide.
4 Plan your service method by referring to the disassembly instructions.
5 Service the unit.
6 After servicing, operate the appliance to see whether it functions correctly.

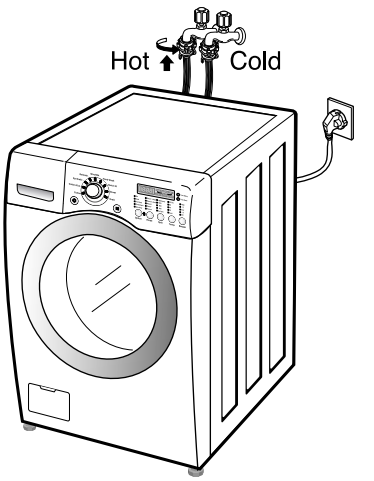
■ STANDARD INSTALLATION

The appliance should be installed as follows:

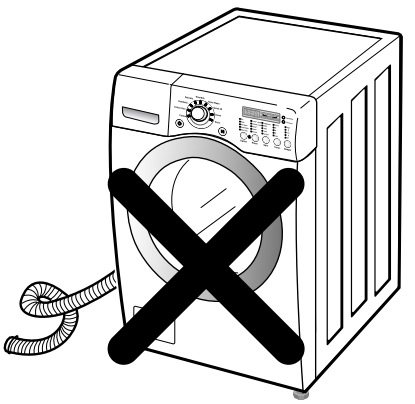
REMOVE THE SHIPPING BOLTS	INSTALL THE APPLIANCE ON A FLAT AND FIRM SURFACE	ADJUST THE LEVELING
• Remove the 4 shipping bolts with the supplied wrench. ※ Do first lower side to remove easily. • Keep the shipping bolts and spanner for future use. • Insert the 4 caps (provided) into the hole. 		• Turn the leveling feet to adjust the appliance.  • Turn clockwise to raise; counterclockwise to lower.

■ HOW TO CONNECT THE INLET HOSE

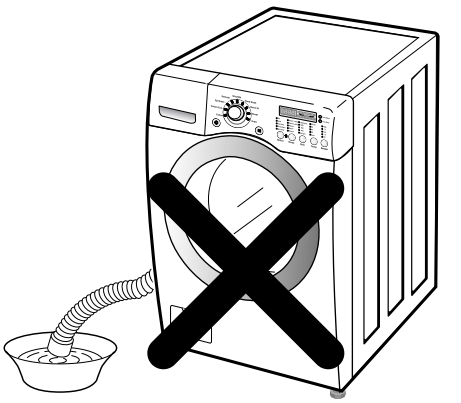
- Verify that the rubber washer is inside of the valve connector.
- Tighten the inlet hose securely to prevent leaks.



■ CONNECT THE DRAIN HOSE



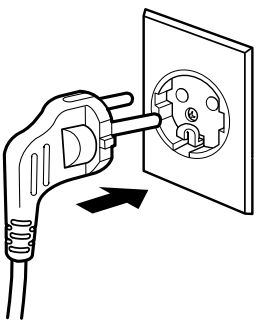
· Make sure that the hose is not twisted.



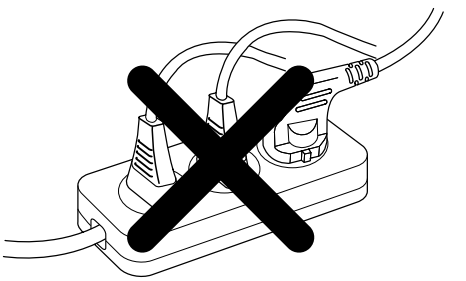
· Avoid submerging the end of the hose.

※ The end of the drain hose should be placed less than 100 cm from the floor.

■ CONNECT POWER PLUG



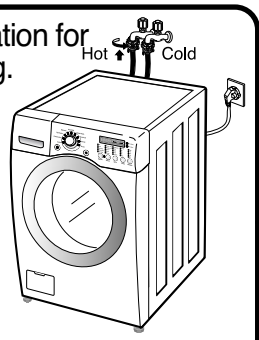
· Connect the power plug to the wall outlet.



· Avoid connecting several electric devices, as doing so may cause a fire.

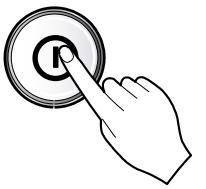
7 TEST OPERATION

1 Preparation for washing.

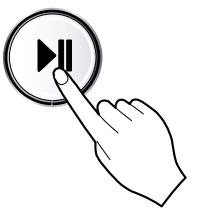


- Connect the power plug to the outlet.
- Connect the inlet hoses.

2 Press the POWER button.

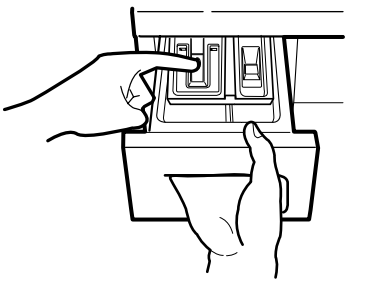


3 Press the START/PAUSE button.



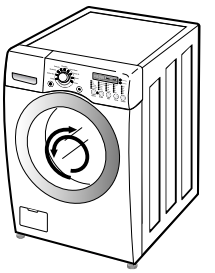
- Listen for a click to determine if the door has locked.

4 Check the water supply.



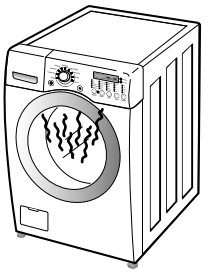
- Check if water is supplied through the detergent dispenser.

5 Check the automatic reverse rotation.



- Check if the drum rotates clockwise and counterclockwise.

6 Check the water heating function.



- Press the Temp. button and the present temperature will be displayed.

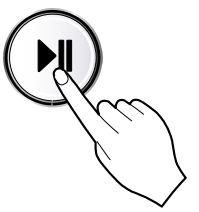
7 Check the drain and spin functions.

Pre Wash	Wash	Rinse	Spin

Processing

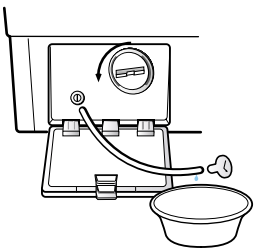
- Power off and the power on.
- Press the SPIN button.
- Press the START/PAUSE button.
- Check the spin and drain functions.

8 Press the START/PAUSE button.



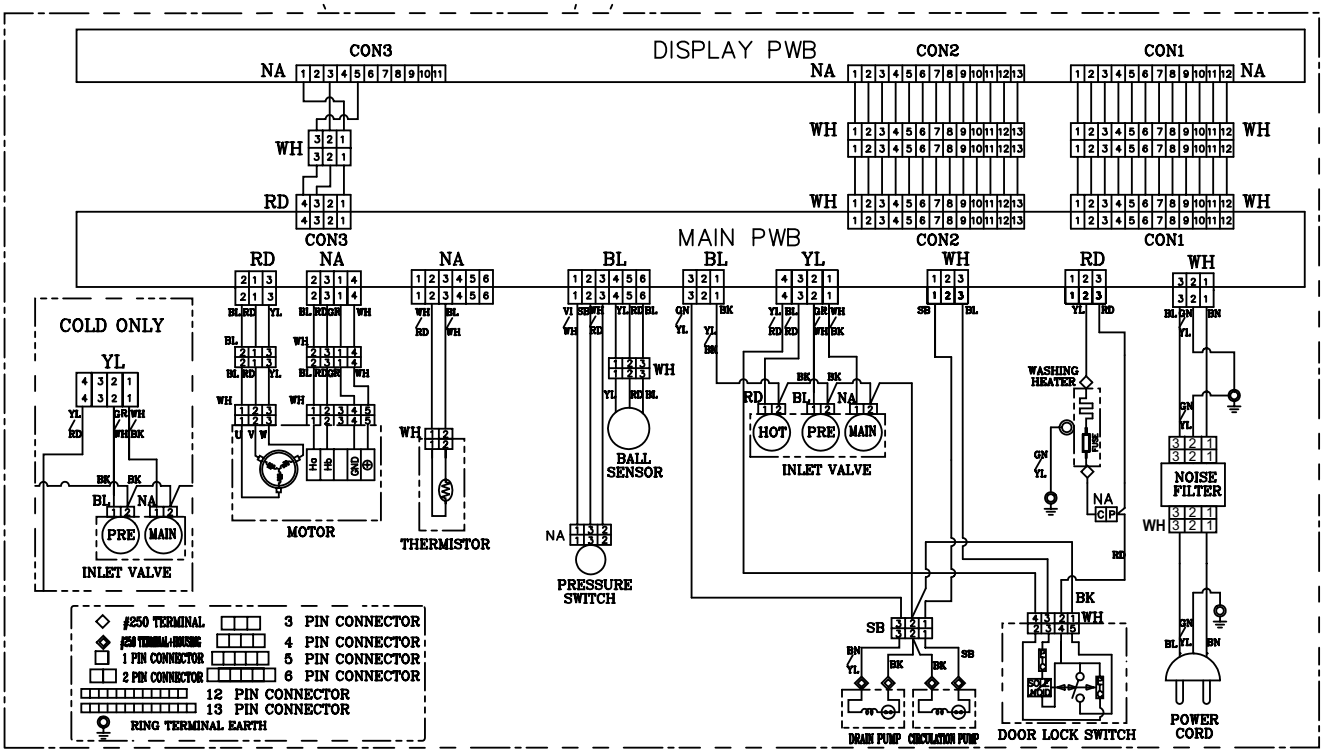
- Listen for a click to determine if the door is unlocking.

9 Water removal



- If SVC is needed during check, remove the remaining water by pulling out the hose cap.

5. WIRING DIAGRAM/PROGRAM CHART



PROGRAM CHART

* Water Supply : W·S * Intermittent Spin : I·S * Disentangle : D·T

COURSE / CYCLE STEP	Washing										Rinse														Spin			END	AUTO OFF	Normal Working Time (Hour:Minute)
	Pre				Main						Normal								Extra or Stain			Extra & Stain										
						Washing		Staycooling			1				2				3			3										
	W·S	Washing	Drain	I·S	W·S	Heating	Washing	W·S	Rinsing	Drain	Drain	I·S	W·S	Rinsing	Drain	I·S	W·S	Rinsing	Drain	I·S	W·S	Rinsing	Drain	I·S	W·S	Rinsing	Drain	Spin	D·T		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	20	20
Time (SEC)	60	MIN	60	300	60		MIN	60	60	60	60	300	60	240	60	300	60	240	60	300	60	240	60	300	60	240	60	120 ~ 540	120	20	20	
Cotton		8					66	2 TIMES																								About 2:19
Synthetic		8					19																									About 1:22
Delicate		8					17																									About 1:04
Wool/Silk		8					13																									About 1:01
Hand Wash		8					13																									About 52
Quick 30		8					7							120				120				120										About 30
Duvet		8					17																									About 1:21
Spin																																About 18
Drain																																About 1

* ▬▬ Basic Cycle
* ┈┈ Optional Cycle
* Pre-Setting Time : Water Supply - 60 sec.
Drain - 60 sec.

* Basic time is minute in washing chart.
* The actual program time can be varied with the load amount, water temperature or ambient temperature.

6. OPERATION

• POWER button

• Use this button to turn the power **On**/**Off**.

• EST.TIME REMAINING

• This display shows:

a) the estimated time remaining in the cycle when operating.

b) an error code when an error has been detected.

• CYCLE SELECTOR knob

• Rotate the **Cycle selector knob** to select the cycle designed for different types of fabric and soil levels.

• START/PAUSE button

• Use this button to Start/ Stop the washer.

• CHILD LOCK

• Use this option to prevent unwanted use of the washer. Press and hold **Option** and **Rinse** button for 3 seconds to lock/unlock control.

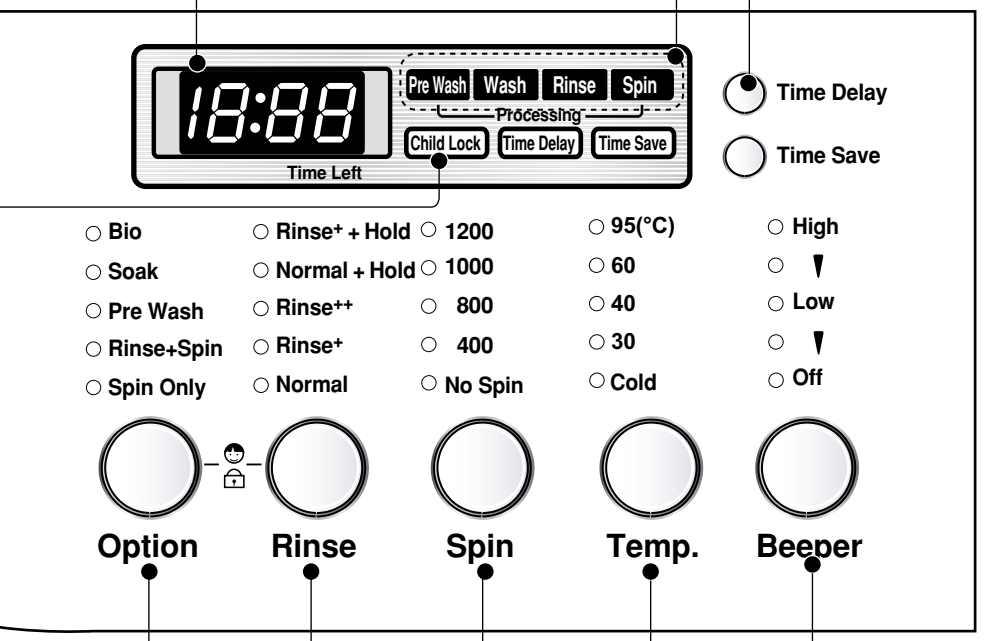
• When Child lock is set, CHILD LOCK lights and all buttons are disabled except the Power ⏻ button. You can lock the washer while it is operating.

• STATUS INDICATOR

• These lights show which portion of the cycle the washer is operating.

• TIME DELAY

• Allows the start of any cycle to be delayed for 3~19 hours.



• DOOR LOCKED lamp

• Lights whenever the door of the washer is locked.

• The door can be unlocked by pressing the Start/Pause ⏯ button to stop the washer.

• OPTION button

• **Pre Wash**: Use this option for loads that need pretreatment. It adds 17 minutes prewash and drain.

• **Rinse+Spin**: Use this option to rinse and then spin.

• **Spin Only**: If you want Spin Only Select the this option.

• **Soak**: Use this mode to wash normal clothes or think and heavy clothes which are excessively dirty

• **Bio**: If you want to elimenate protein stains(milk, blood, chocolate...), you may select Bio by pressing the option button.[You can select Bio when temperature is higher than 60°C in Cotton, Cotton-Eco and Synthetic.]

• RINSE, SPIN, TEMP. and BEEPER For Manual

• Use these button to change Rinse/Spin/Temp./Beeper

• When lamp is off, no selection has been mode.

• Pre Wash and Soak available for Cotton, Cotton-Eco and Synthetic.

7. TROUBLESHOOTING

7-1. BEFORE PERFORMING SERVICE

■ Be careful of electric shock when disconnecting parts while troubleshooting.

■ The voltage of each terminal is 220-240V AC and DC when the unit is plugged in.

7-2. QC TEST MODE.

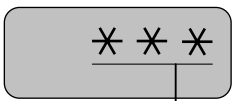
The washer must be empty and the controls must be in the off state.

1. Press the RINSE and SPIN buttons simultaneously.
2. Press the Power ⏻ button, while the above condition. Then buzzer will sound twice.
3. Press the Start/Pause ⏯ button repeatedly to cycle through the test modes.

Number of times the Start/Pause button is pressed	Check Point	Display Status
None	Turns on all lamps and locks the door.	18:88
1 time	Tumble clockwise.	rpm (40~50)
2 times	Low speed Spin.	rpm
3 times	High speed Spin.	rpm
4 times	Inlet valve for prewash turns on.	Water level frequency (25~65)
5 times	Inlet valve for main wash turns on.	Water level frequency (25~65)
6 times	Inlet valve for hot water turns on.	Water level frequency (25~65)
7 times	Inlet valve for bleach turns on.	Water level frequency (25~65)
8 times	Tumble counterclockwise.	rpm (40~50)
9 times	Heater turns on for 3 sec.	Water temperature
10 times	Circulation pump turns on.	Water level frequency (25~65)
11 times	Drain pump turns on.	Water level frequency (25~65)
12 times	Power off and unlock the door.	Turn off all lamps.

7-3. HOW TO CHECK THE WATER LEVEL FREQUENCY

* Press the Spin and Rinse button simultaneously.



The digits indicate the water level frequency (x.1 kHz).

So, for example a display indicating 241: a Water level frequency of 241 x.1 kHz
= 24.1 kHz

7-4. ERROR DISPLAY

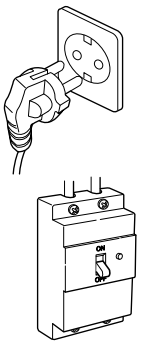
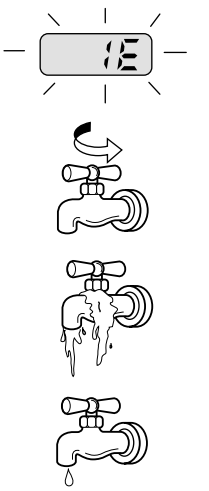
- If you press the START/PAUSE button when an error is displayed, any error except 『PE』 will disappear and the machine will go into the pause status.
- In case of 『PE』,『tE』,『dE』 if the error is not resolved within 20 sec., or the in case of other errors, if the error is not resolved within 4 min., power will be turned off automatically and the error code will blink. But in the case of 『FE』, power will not be turned off.

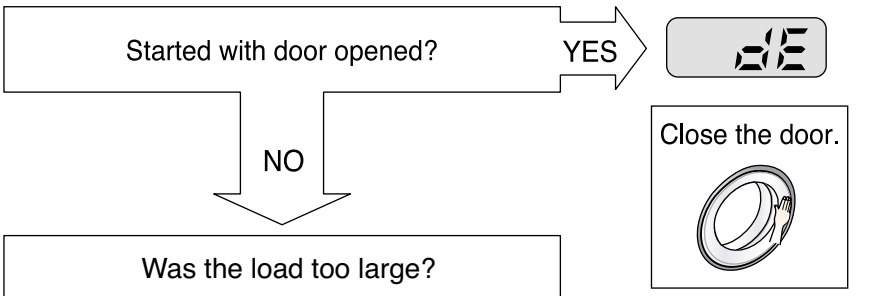
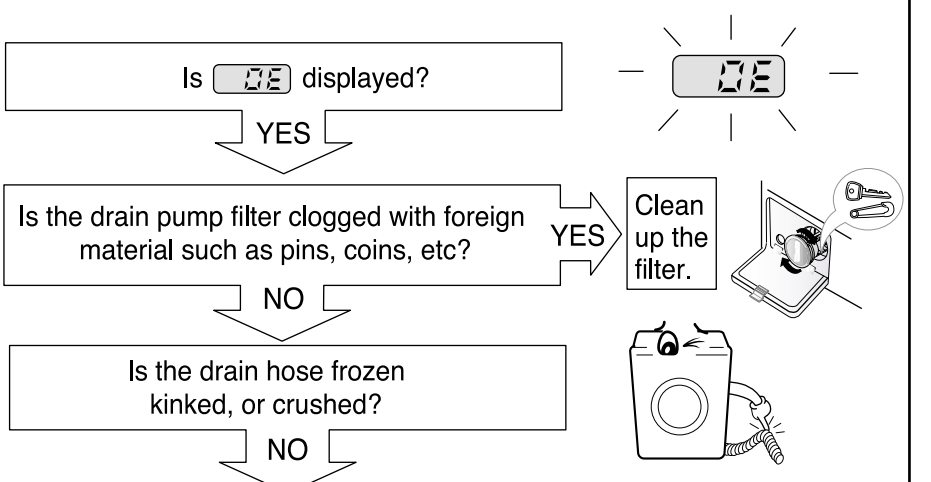
	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR		• Correct water level (246) is not reached within 8 minutes after water is supplied or it does not reach the preset water level within 25 minutes.
2	IMBALANCE ERROR		• The load is too small. • The appliance is tilted. • Laundry is gathered to one side. • Non distributable things are put into the drum.
3	DRAIN ERROR		• Not fully drained within 10 minutes.
4	OVER FLOW ERROR		• Water is overflowing (water level frequency is over 213). ※ If is displayed, the drain pump will operate to drain the water automatically.
5	PRESSURE SENSOR ERROR		• The SENSOR SWITCH ASSEMBLY is out of order.
6	DOOR OPEN ERROR		• Door not all the way closed. • Loose electrical connections at Door switch and PWB Assembly. • The DOOR SWITCH ASSEMBLY is out of order.
7	HEATING ERROR		• The THERMISTOR is out order.

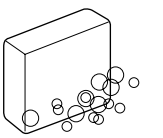
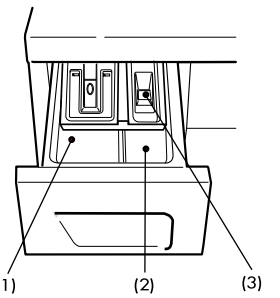
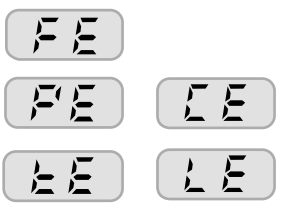
	ERROR	SYMPTOM	CAUSE
8	OVER CURRENT ERROR		• MAIN PWB ASSEMBLY is out of order. • Winding in the STATOR ASSEMBLY is short-circuited.
9	LOCKED MOTOR ERROR		• The connector (3-pin, male, white) in the MOTOR HARNESS is not connected to the connector (3-pin, female, white) of STATOR ASSEMBLY. • The electric contact between the connectors (3-pin, male, white) in the MOTOR HARNESS and 4-pin, female, white connector in the MAIN PWB ASSEMBLY is bad or unstable. • The MOTOR HARNESS between the STATOR ASSEMBLY and MAIN PWB ASSEMBLY is cut (open circuited). • The hall sensor is out of order/defective.
10	BALL SENSOR ERROR		• Loose Ball Sensor Connector. • Ball Sensor is out of order. ※ Displayed only when the START/PAUSE button is first pressed in the QC Test Mode.
11	EEPROM ERROR		• EEPROM is out of order. ※ Displayed only when the START/PAUSE button is first pressed in the QC Test Mode.
12	POWER FAILURE		• The washer experienced a power failure.

8. ERROR DIAGNOSIS AND CHECK LIST

8-1. DIAGNOSIS AND SOLUTION FOR ABNORMAL OPERATION

<table>
<tr><th>SYMPTOM</th><th>GUIDE FOR SERVICE CALL</th></tr>
<tr><td>No power</td><td>Is the power plug connected firmly to 220-240V AC outlet?
YES
Power failure? or Breaker opened?
Is the outlet controlled by a switch?
NO
Visit to service.
  </td></tr>
<tr><td>Water inlet trouble
 </td><td>Is displayed?
YES
Is the tap opened?
YES
Is the tap frozen?
NO
Is the water supply shut-off?
NO
Is filter in the inlet valve clogged with foreign material?
YES
Clean the filter of inlet valve
NO
Visit to service.
  </td></tr>
</table>

SYMPTOM	GUIDE FOR SERVICE CALL
Door error 	 Check if the door switch is OK.
Drain trouble 	

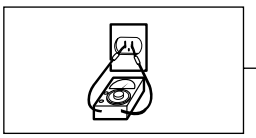
SYMPTOM	GUIDE FOR SERVICE CALL
Suds overflow from the appliance. (In this condition, wash and spin do not operate normally)	Is a low-sudsing detergent used? YES Is the proper amount of detergent used as recommended? YES Recommend to reduce the amount of detergent.  LOW-SUDSING ✳ This appliance has an automatic suds sensing function which prevents overflow. ✳ When excessive suds are sensed, the suds removing implementations such as drain, water input, pause will operate, without rotating the drum.
Liquid laundry products do not flow in.	Is liquid laundry product put in the correct compartment of the dispenser? YES Is the cap clogged? YES Explain proper use of liquid laundry products. **Clean the compartment.**  (1) Main Wash Compartment (2) Prewash Compartment (3) Liquid fabric Softener Compartment
 	Visit to service.

8-2. FAULT DIAGNOSIS AND TROUBLESHOOTING

⚠ CAUTION

1. Be careful of electric shock if disconnecting parts while troubleshooting.
2. First of all, check the connection of each electrical terminal with the wiring diagram.
3. If you replace the MAIN PWB ASSEMBLY, reinsert the connectors correctly.

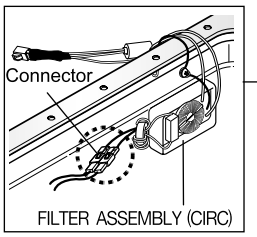
NO POWER



Is the supplied voltage 220-240V AC?

NO → Check the fuse or reset the circuit breaker.

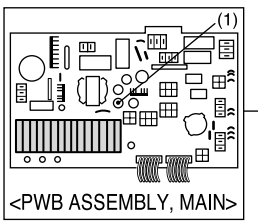
YES



Is the voltage between the 2 FILTER ASSEMBLY connectors 220-240V AC?

NO → Replace the FILTER ASSEMBLY (CIRC).

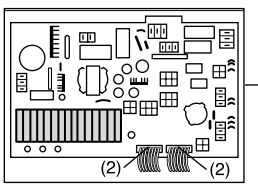
YES



Is the LED (1) on?

NO → Replace MAIN PWB ASSEMBLY.

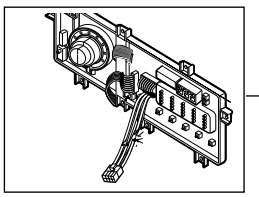
YES



Are the connectors (2) on the PWB loose?

YES → Reconnect.

NO



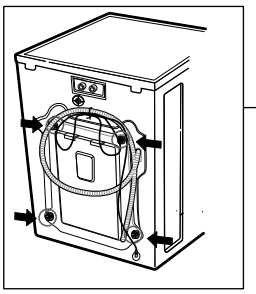
Is wire of the DISPLAY PWB ASSEMBLY broken?

NO → Replace the MAIN PWB ASSEMBLY.

YES

Replace DISPLAY PWB ASSEMBLY or repair wire.

VIBRATION & NOISE IN SPIN



Have all the transit bolts and base packing been removed?

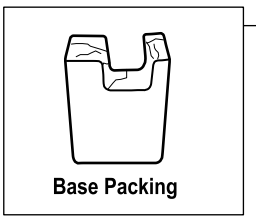
NO → Remove the transit bolts and Base packing.

YES

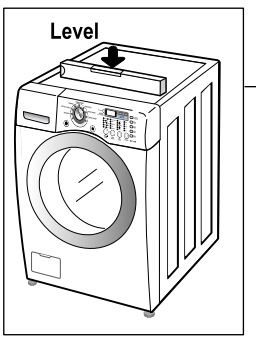
Is the washer installed on a solidly constructed floor?

NO → Move the washer or reinforce the floor.

YES

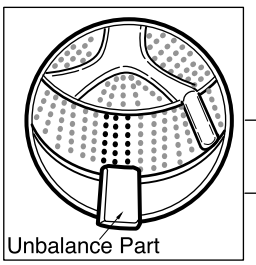


Check if the washer is perfectly level as follows:



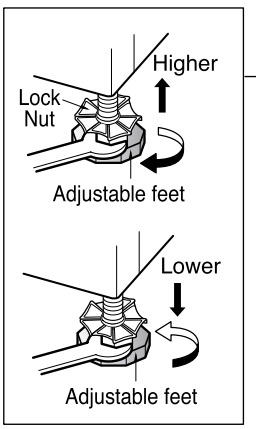
Check the leveling of the washer with a Level and check that the washer is stable.

Put an unbalance part (rubber) inside of drum and start QC test mode and run in high spin (Refer to section 7-2).
When the machine is spinning in high speed, verify that it is stable.



If you do not have the unbalance part, put 4.5 to 6.5 lbs (2 to 3 kg) of clothing. Once loaded, press power, Rinse+Spin and the start/pause button in sequence.
When the machine is spinning in high speed, verify that it is stable.

YES



If it is not stable, adjust feet accordingly. After the washer is level, tighten the lock nuts up against of the base of the washer. All lock nuts must be tightened.

If it still has severe vibration and noise, regulate a specific spin speed that generates excessive vibration and noise as follows:

1) Put an unbalance part (rubber) inside of the drum.

2) Start the QC test mode (Refer to section 7-2).

3) Press Delay Wash button, then ' 5E ' is displayed.

4) Press the Spin Speed button repeatedly to select Extra High.

5) Press the Quick Cycle button, the spin speed is displayed.

6) Press the Start/Pause button.

7) Press the Beeper button repeatedly to set spin speed (600, 800, 1000, 1200 rpm) and check if there is vibration and noise.

8) If there is no vibration and noise, increase the spin speed by pressing Beeper button.

9) If there is vibration and noise, rotate the Cycle selector knob clockwise to reduce the Spin Speed (reduce by 50 and 100 rpm). In case of 600 rpm, it can not reduce the spin speed.

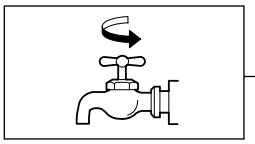
10) If vibration and noise are reduced, press the Quick Cycle button to store (2 beep sounds).

* If you want to return to factory default spin speed setting, repeat above steps except step 9).

NO WATER SUPPLY

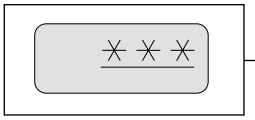
Is water supply shut-off?

NO



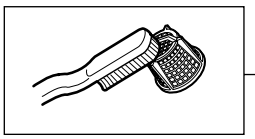
Is the tap opened? — **NO** → Open the tap.

YES



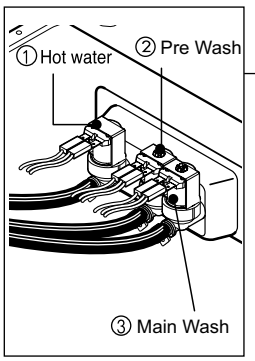
When you press both **SPIN** button and **RINSE** button simultaneously, is the water level frequency below 246? — **YES** → Check the AIR CHAMBER and the tube (clogged).

NO



Is the inlet valve filter clogged? — **YES** → Clean the filter.

NO

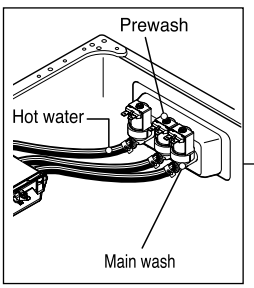


Is resistance between each terminal of INLET VALVE ASSEMBLY 0.8-1.2 kΩ? — **NO** → Replace the INLET VALVE ASSEMBLY.

YES

Verify the voltage of the inlet valve connector is 220-240V AC.
(Refer to 7-2 QC TEST MODE) — **NO** → Check electrical connection. Replace the MAIN PWB ASSEMBLY.

DETERGENT DOES NOT FLOW IN

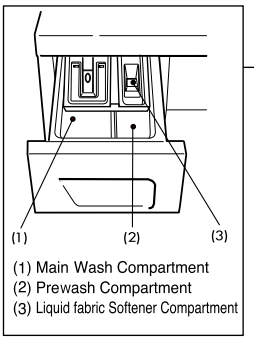


Is water supplied? — **NO** → Refer to 「NO WATER SUPPLY」

YES

Are receptacles correctly connected to the terminals of the INLET VALVE ASSEMBLY? — **NO** → Check the wiring.

YES



Has detergent been put in the correct compartment of the dispenser? — **NO** → Put the detergent in the correct place.

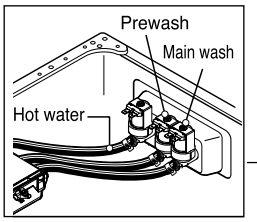
Pre wash | Main wash

● : Detergent

YES

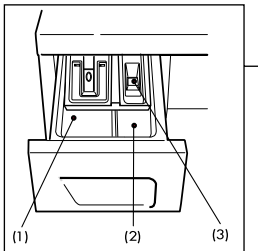
Is the detergent caked or hardened? — **YES** → Clean the dispenser.

LIQUID DETERGENT/SOFTENER DOES NOT FLOW IN



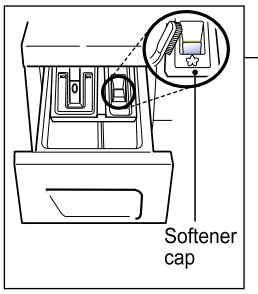
Is water supplied?
- NO → Refer to 「NO WATER SUPPLY」
- YES ↓

Are the plugs correctly connected to the terminals of the INLET VALVE ASSEMBLY?
- NO → Check the wiring on the dispenser.
- YES ↓



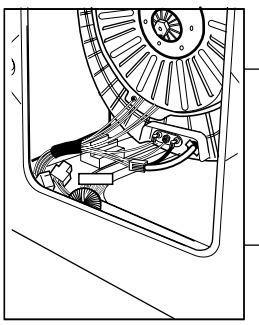
(1) Main Wash Compartment
(2) Prewash Compartment
(3) Liquid fabric Softener Compartment

Is liquid detergent/softener/bleach put in the correct compartment of the drawer?
- NO → Put it in the correct compartment.
- YES ↓



Is the liquid detergent/softener/bleach cap clogged?
- YES → Clean the Cap and Container.

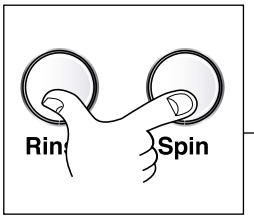
ABNORMAL SOUND



Is the motor bolt loosened?
- YES → Secure the bolt.
- NO ↓

Is there friction noise coming from the motor?
- YES → Replace the STATOR ASSEMBLY or ROTOR ASSEMBLY.

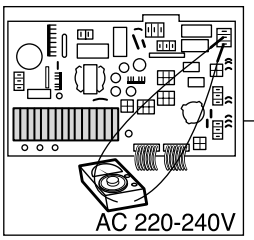
HEATING WITHOUT WATER



When pressing **SPIN** and **RINSE** at the same time after draining, is the water level frequency 255?
When pressing **SPIN** and **RINSE** buttons at the same time while washing, is the water level frequency between 230 - 243 ?

NO → Replace the SENSOR SWITCH ASSEMBLY.

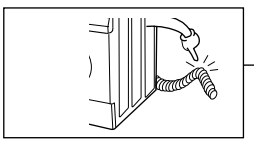
YES



Check the voltage between two pins while pressing the POWER button. Is the voltage 220-240V AC?

YES → Replace the MAIN PWB ASSEMBLY.

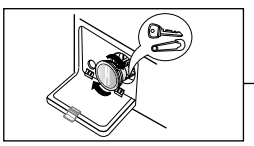
DRAIN MALFUNCTION



Is the drain hose twisted or frozen?

YES → Repair the DRAIN HOSE ASSEMBLY.

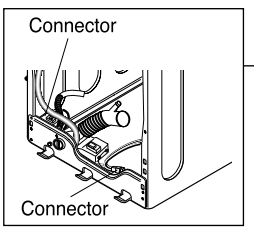
NO



Is the impeller of the drain pump clogged?

YES → Remove foreign material.

NO



Is the connector disconnected, disassembled?

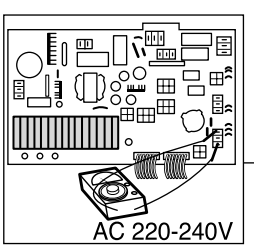
YES → Reconnect or repair the connector

NO

Is the coil of the drain pump too high or low?
(resistance of the coil is 10-20 Ω)

YES → Replace the DRAIN PUMP ASSEMBLY.

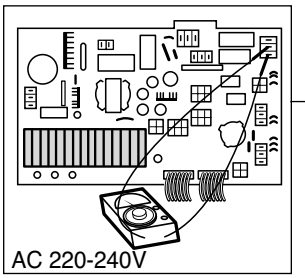
NO



When checking voltage between connectors during spin, is the voltage 220-240V AC as in the figure?

NO → Replace the MAIN PWB ASSEMBLY.

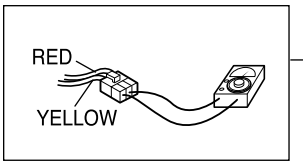
WASH HEATER TROUBLE



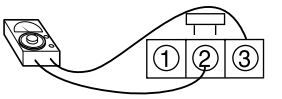
When checking the voltage between connector during whites washing.
Is the voltage 220-240V AC?

NO → Replace the MAIN PWB ASSEMBLY.

YES ↓

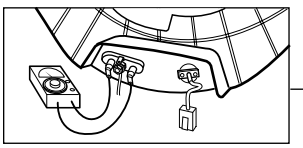


After power off, is the resistance of wire (RED-YELLOW) connectors between 10 Ω-30 Ω?



YES → Normal

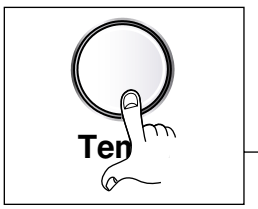
NO ↓



After power off and the heater terminal is disconnected, is the resistance 10-30 Ω?

YES → Replace the PWB HARNESS.

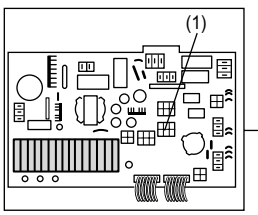
HEATING CONTINUOUSLY ABOVE THE SETTING WATER TEMPERATURE



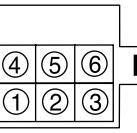
When pressing Temp. button is the displayed temperature over 10 °C higher than the selected temperature?

NO → Check if inlet hose is connected to a hot faucet; otherwise, replace MAIN PWB ASSEMBLY.

YES ↓

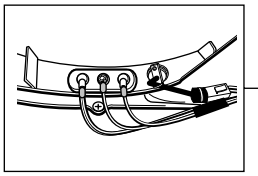


Is the resistance between ② and ③ of Connector (1) 2.5-180 kΩ ?



NO → Check electrical connection. Replace THERMISTOR.

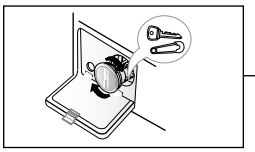
YES ↓



When checking the THERMISTOR on the tub, is the THERMISTOR loose?

YES → Push the THERMISTOR tightly to the rubber.

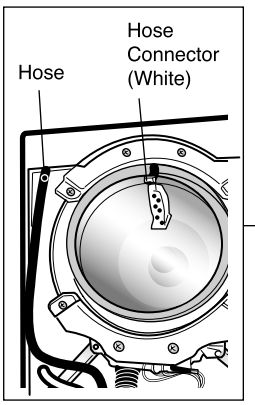
WILL NOT CIRCULATE WATER



Is the impeller of the drain pump clogged?

YES → Remove foreign material.

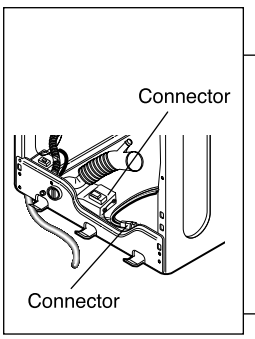
NO ↓



Are the Hose Connector and/or Hose clogged?

YES → Remove foreign material.

NO ↓



Is the connector disconnected, disassembled?

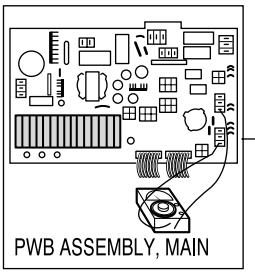
YES → Reconnect or repair the connector.

NO ↓

Is the coil of the right side of drain pump open or short circuited? (Coil R is 18-30 Ω)

YES → Replace PUMP MOTOR ASSEMBLY.

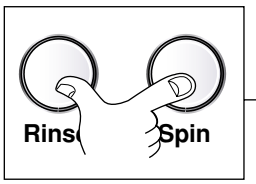
NO ↓



When checking voltage between the connectors during spin, is the voltage 220-240V AC, as the figure?

NO → Replace the MAIN PWB ASSEMBLY.

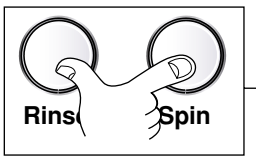
SPIN TROUBLE



Check during spin if the frequency of the water level is 248 or more.

YES → Check the SENSOR SWITCH ASSEMBLY or HOSE (Pressure). If the problem is on the SENSOR SWITCH ASSEMBLY or the HOSE, replace the SENSOR SWITCH ASSEMBLY or the HOSE.

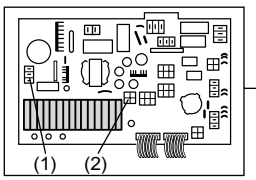
NO



When pressing Rinse, Spin, and Power buttons at the same time after powerr, press the **START/PAUSE** button 2 times in QC Test mode, is the drum spinning at low speed?

YES → Normal

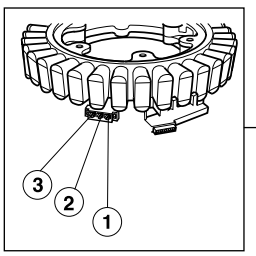
NO



Is it disconnected, or disassembled?
[Red: 3pin (1), NA: 4pin (2)]

YES → Correct the connection.

NO



Check the motor connector, Is the resistance of the terminal the same as the figure?

MOTOR TERMINAL

③	②	①

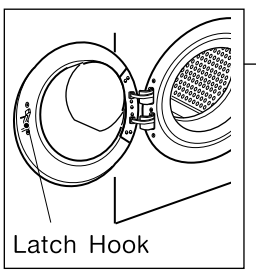
Resistance of terminal:
①-②/②-③/③-①: About 5 Ω –15 Ω

NO → Replace the STATOR ASSEMBLY

YES

Replace the MAIN PWB ASSEMBLY

dE ERROR



Does the spring of Latch Hook actuate?

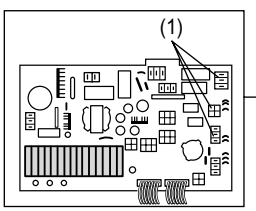
NO → Replace Door Assembly.

YES

Is there clicking sound once or twice when the **START/PAUSE** button is pressed to start the cycle?

NO → Check the DOOR SWITCH ASSEMBLY Connector and MAIN PWB ASSEMBLY (Red 3 pin, Yellow 4 pin and white 3 pin connector (1)).

YES



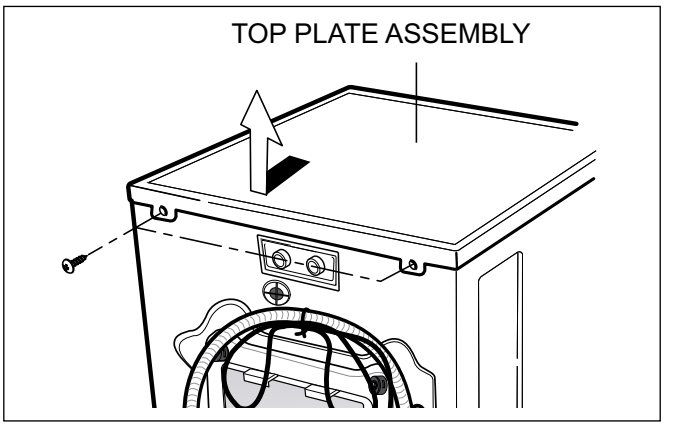
Is DOOR SWITCH ASSEMBLY broken?

YES → Replace the DOOR SWITCH ASSEMBLY.

9. DISASSEMBLY INSTRUCTIONS

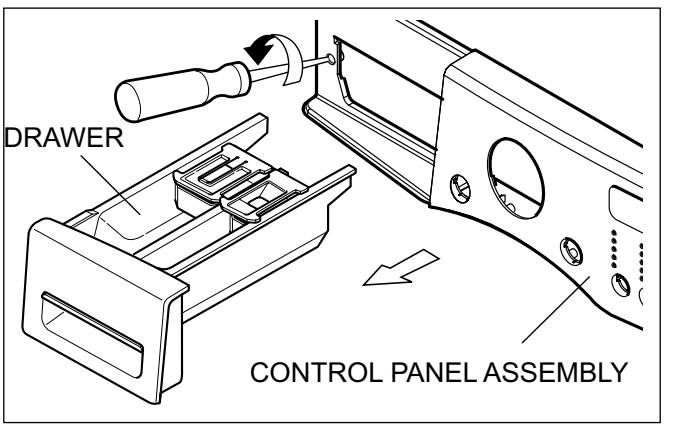
* Be sure to unplug the machine out of the outlet before disassembling and repairing the parts.

CONTROL PANEL ASSEMBLY



① Unscrew 2 screws on the back of the top plate.

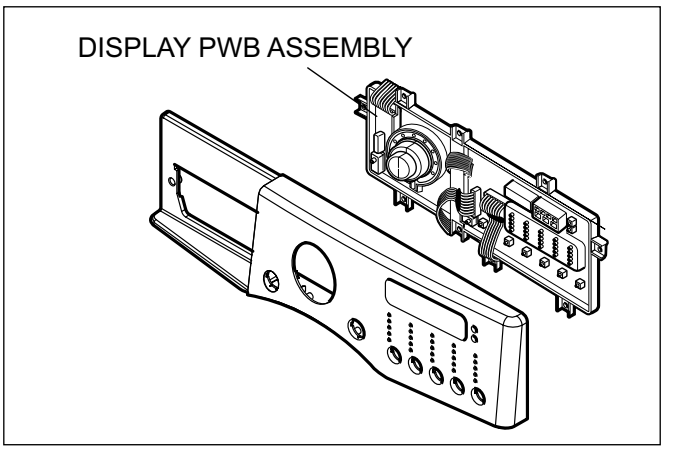
② Pull the top plate backward and upward as shown.



③ Disconnect the Display PWB Assembly connector from Trans cable.

④ Pull out the drawer and unscrew 2 screws.

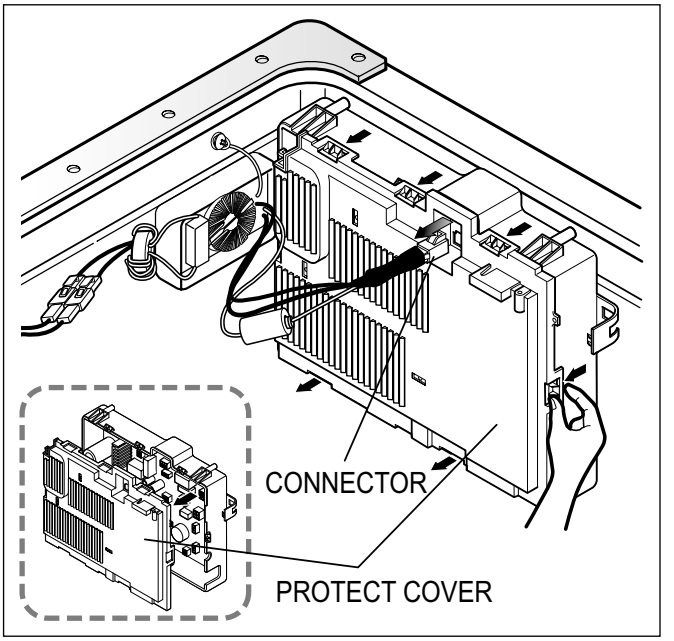
⑤ Lift the left side of the Control Panel Assembly and pull it out.



⑥ Unscrew the 9 screws from the Control Panel Assembly.

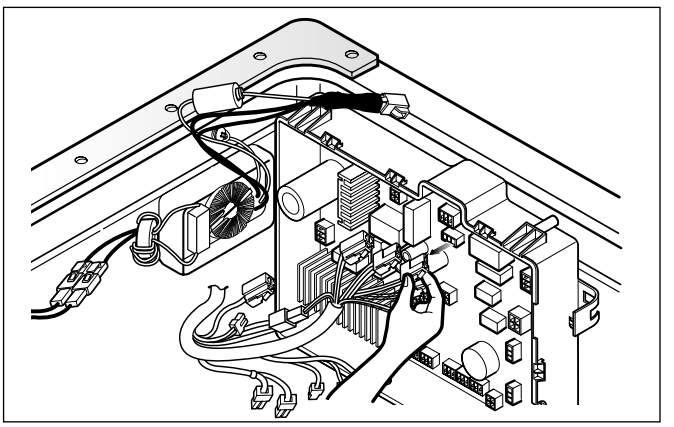
⑦ Disassemble the Display PWB Assembly.

MAIN PWB ASSEMBLY

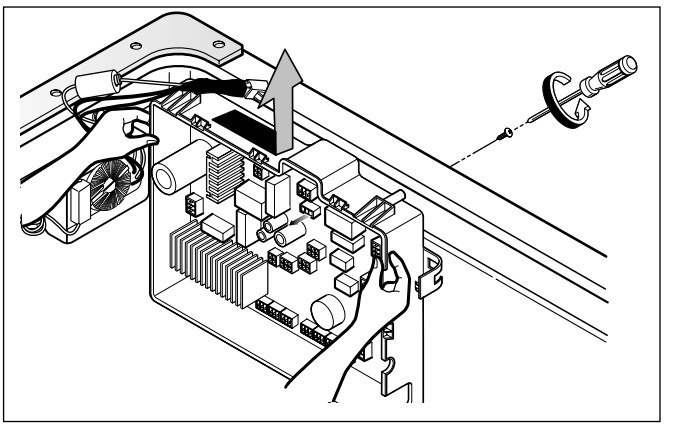


① Disconnect the POWER connector and SENSOR SWITCH ASSEMBLY.

② Remove the Protect Cover.



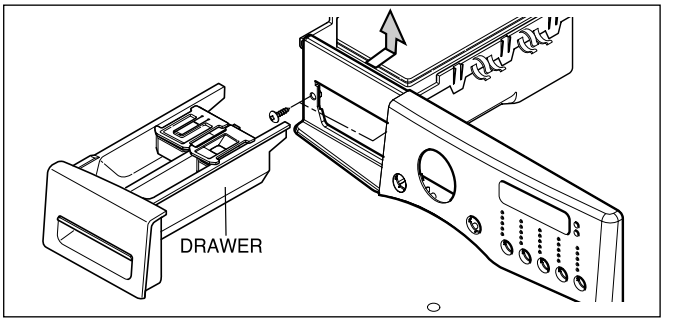
③ Disconnect the connectors.



④ Unscrew 1 screw on the back.

⑤ Disassemble the Main PWB.

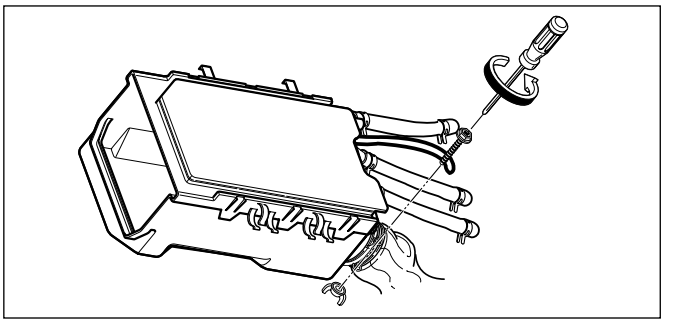
DISPENSER ASSEMBLY



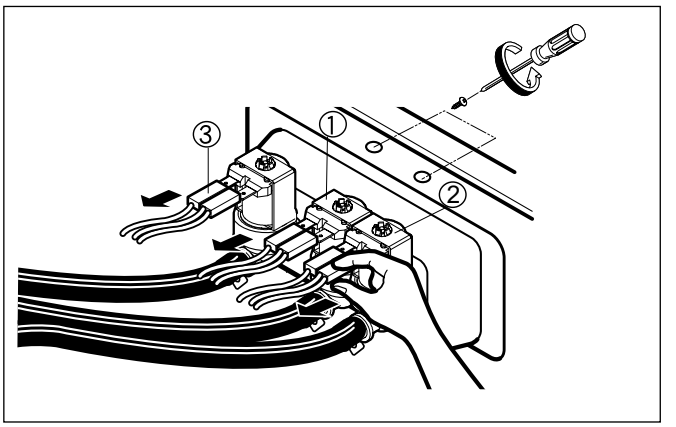
① Disassemble the top plate assembly.

② Pull out the drawer.

③ Push out the DISPENSER ASSEMBLY after unscrew 2 screws.



④ Unscrew the nut at the lower part of the dispenser.



⑤ Disassemble the 2 or 3 connectors from the valves.

※ Wire Color

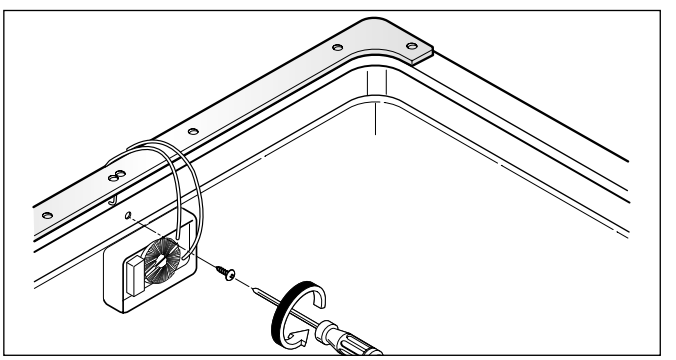
① Blue Housing (BK-GR/WH)

② White Housing (BK-WH/BK)

③ Red Housing (BK-BL/RD)

⑥ Unscrew 2 or 4 screws from the back of the cabinet.

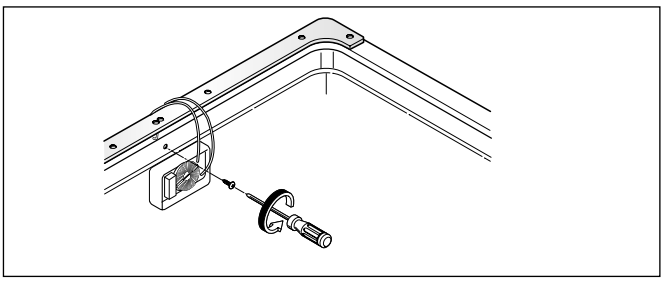
NOISE FILTER



① Unscrew a screw from the TOP BRACKET.

② Disassemble two connectors from the POWER CORD.

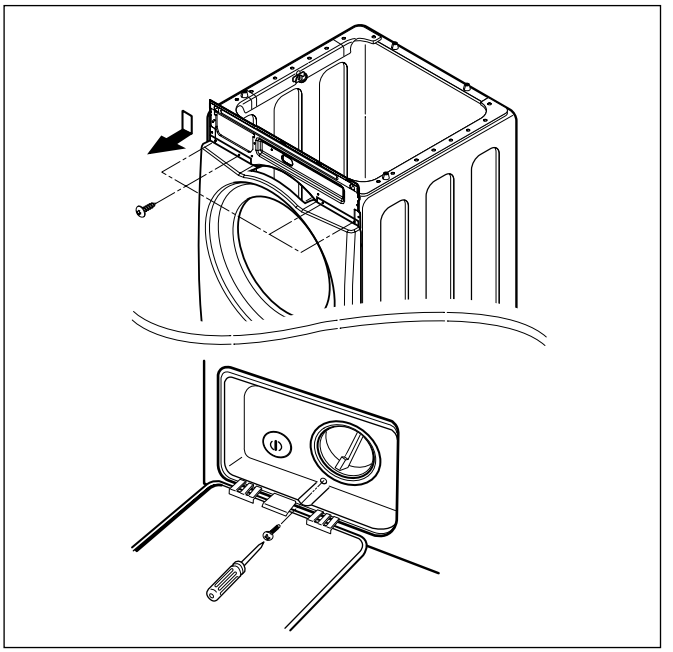
REACTOR



① Unscrew the a screw from the Top Bracket.

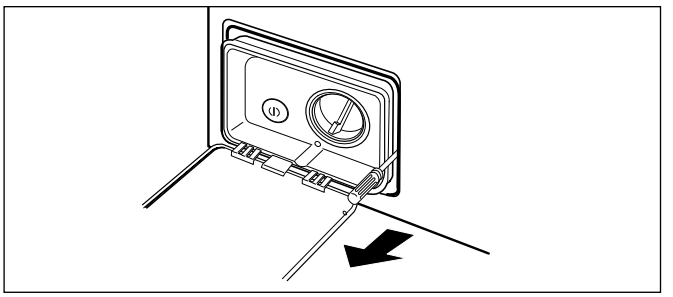
② Disassembly one connector from the Main PWB.

CABINET COVER

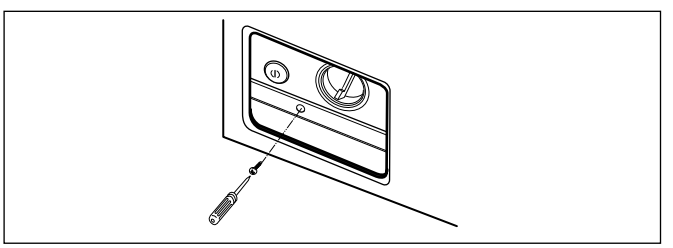


① Unscrew the 4 screws from upper of the canbinet cover.

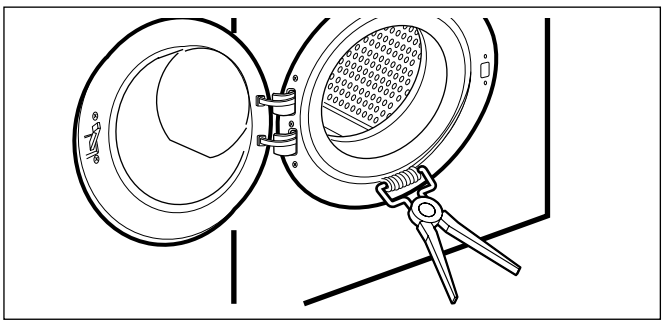
② Unscrew the screw from filter cover.



③ Put a flat (–) screwdriver or putty knife into the both sides of the filter cover, and pull it out.

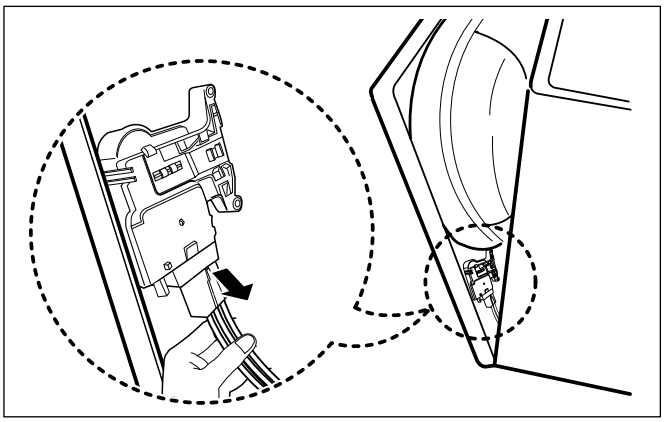


④ Unscrew the screw from the lower side of the cabinet cover.



⑤ Open the door.

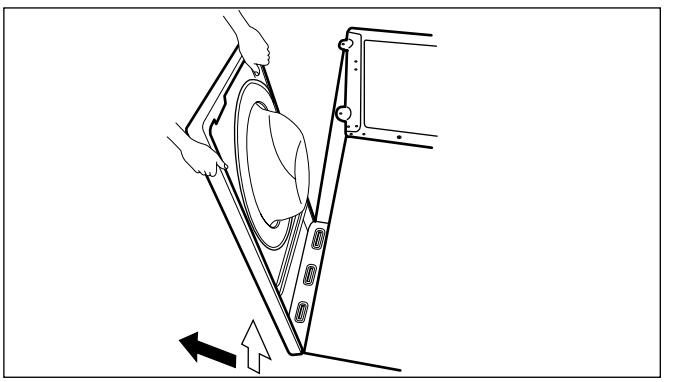
⑥ Disassemble the clamp assembly.



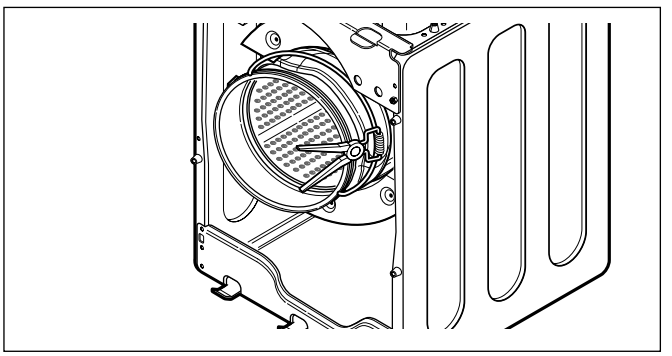
⑦ Tilt the cabinet cover.

⑧ Disconnect the door switch connector.

※ **NOTE**: When assembling the CABINET COVER, connect the connector.



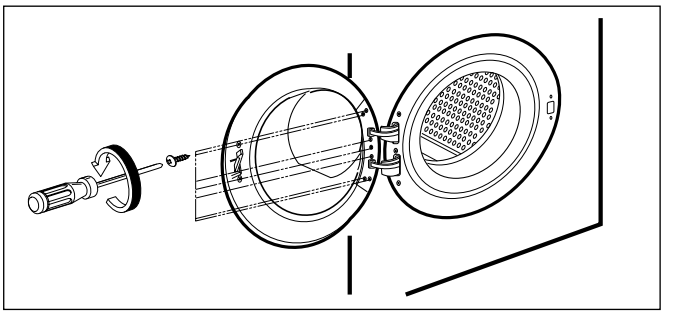
⑨ Lift and separate the cabinet cover.



⑩ Disassemble the clamp assembly.

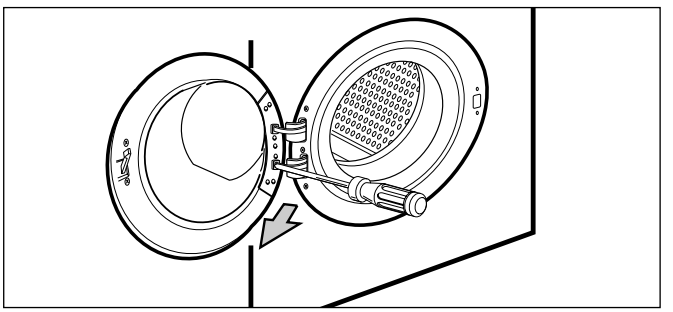
⑪ Disassemble the Gasket.

DOOR

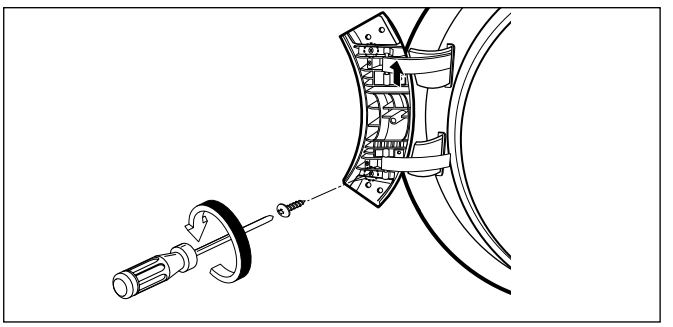


① Open the door.

② Unscrew the 7 screws from the HINGE COVER.



③ Put a flat (-) screwdriver into the openng of the hinge, and pull out the hinge cover.

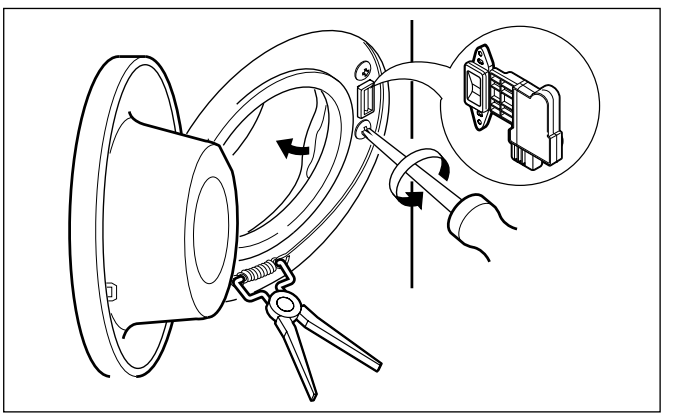


④ Unscrew a screw from the lower side of door.

⑤ Disassemble the door upward.

※ **Be careful!** The door is heavy.

DOOR LOCK SWITCH ASSEMBLY



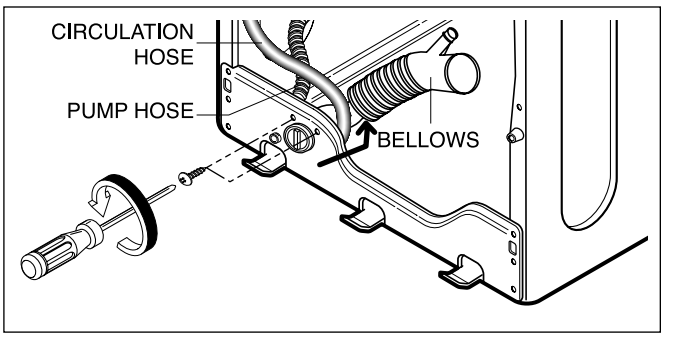
① Open the door and disassemble the CLAMP ASSEMBLY.

② Unscrew the 2 screws.

※ **NOTE**

- Reconnect the connector after replacing the DOOR SWITCH ASSEMBLY.

PUMP

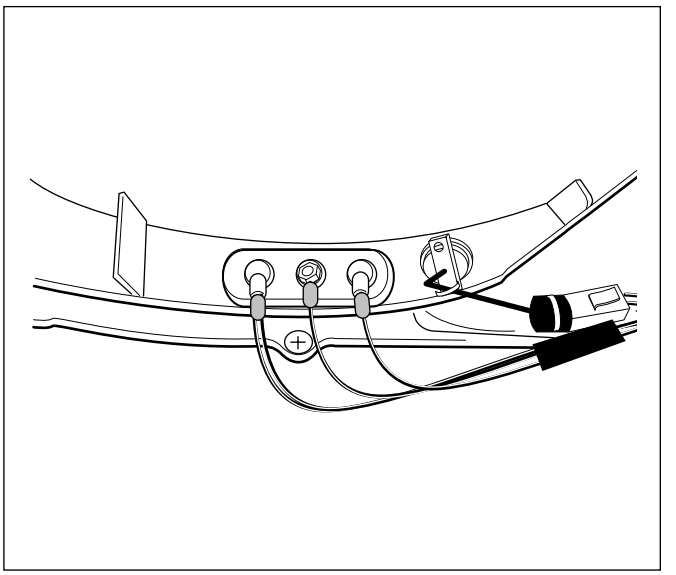


① Disassemble the cabinet cover.

② Separate the pump hose, the bellows and the circulation hose assembly from the pump assembly.

③ Disassemble the pump assembly in arrow direction.

HEATER



① Disassemble the cabinet cover.

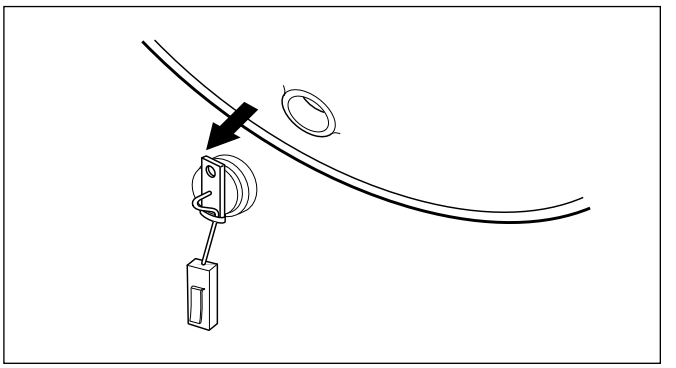
② Separate 2 connectors from the heater.

③ Loosen the nut and pull out the heater.

※ CAUTION

- When assembling the heater, insert the heater into the heater clip on the bottom of the tub.
- Tighten the fastening nut so the heater is secure.

THERMISTOR

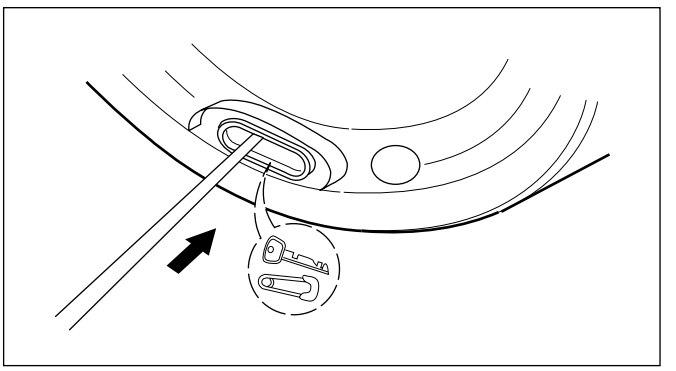


① Disassemble the cabinet cover.

② Unplug the white connector from the thermistor.

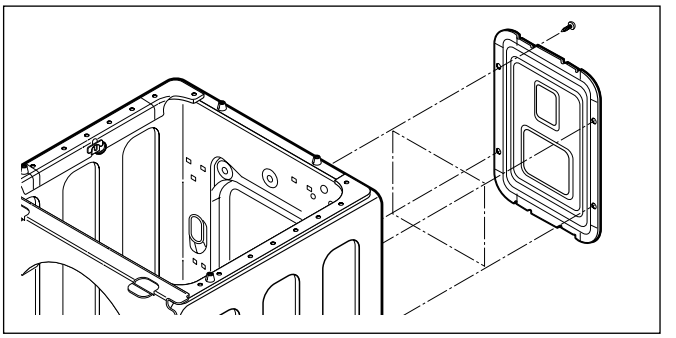
③ Pull it out by holding the bracket of the thermistor.

WHEN FOREIGN OBJECT IS STUCK BETWEEN DRUM AND TUB

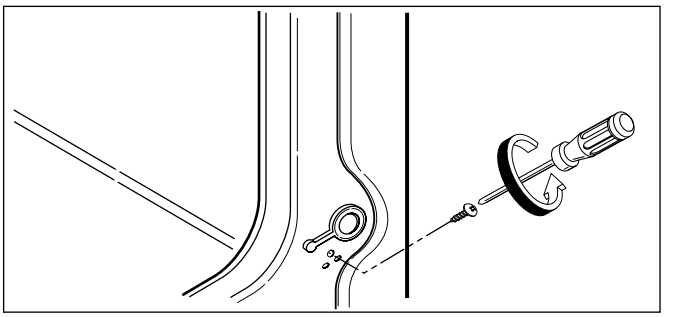


① Disassemble the cabinet cover.
② Separate the heater from the tub.
③ Remove any foreign objects (wire, coin, etc.) by inserting a long bar in the opening.

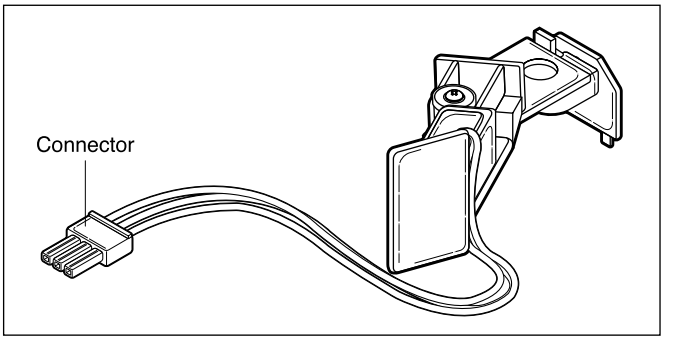
SENSOR ASSEMBLY(BALL SENSOR)



① Unscrew the 4 screws from the back cover.

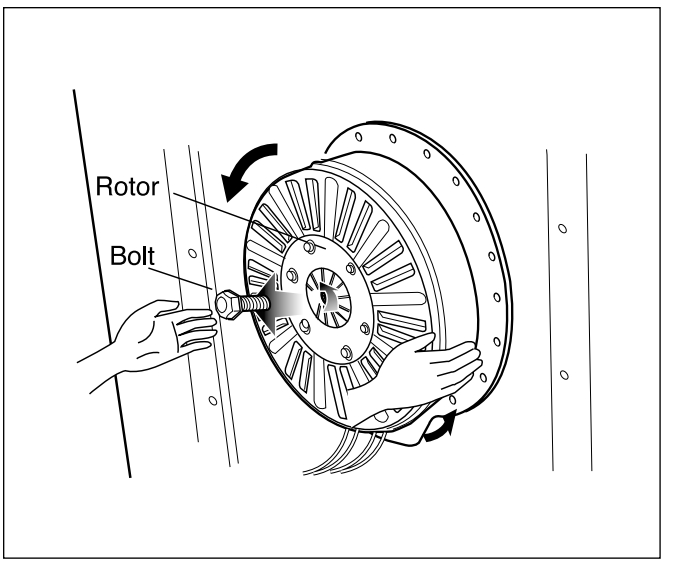


② Unscrew the single screw from the lower-right side of the cabinet.

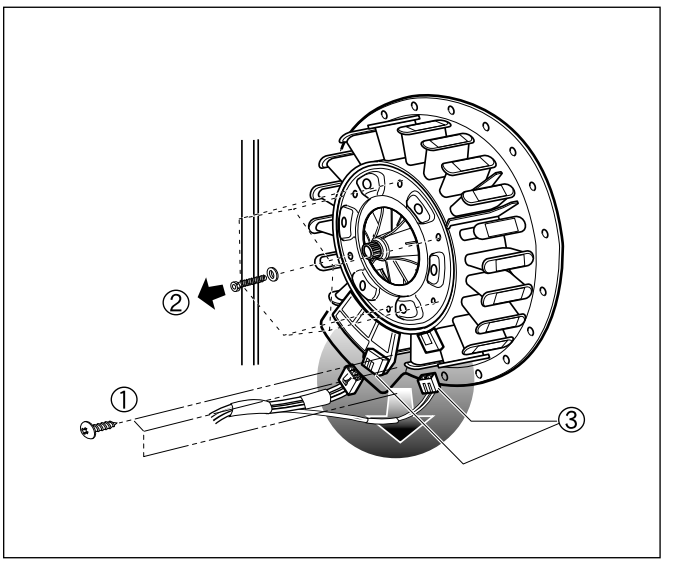


③ Disconnect the connector from PWB Harness.

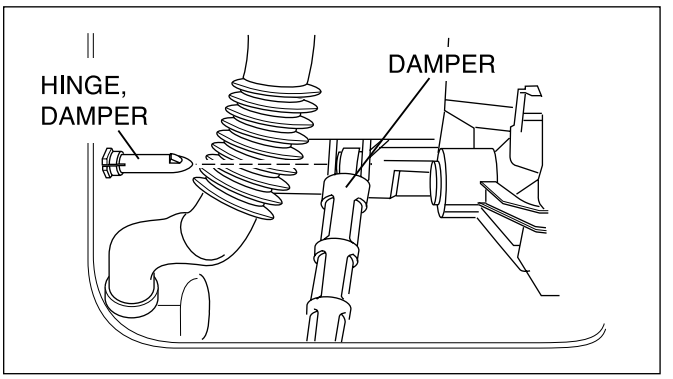
MOTOR/DAMPER



① Disassemble the back cover.
② Remove the bolt.
③ Pull out the Rotor.



① Unscrew the 2 screws from the tub bracket.
② Remove the 6 bolts on the stator.
③ Unplug the 2 connectors from the stator.



① Disassemble the damper hinges from the tub and base.
② Separate the dampers.

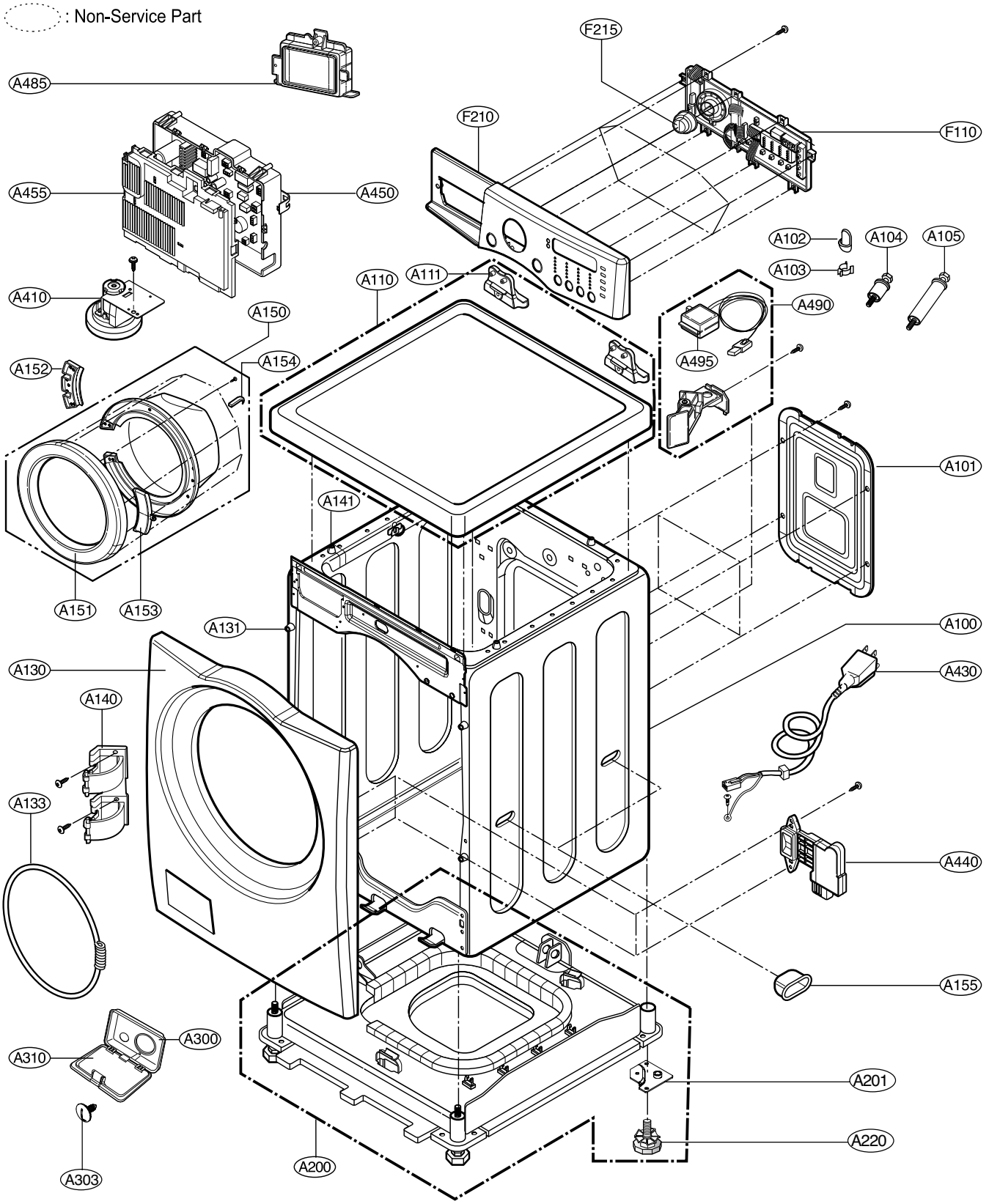
※ **NOTE**
- Once removed, replace the damper with new one.

10. EXPLODED VIEW

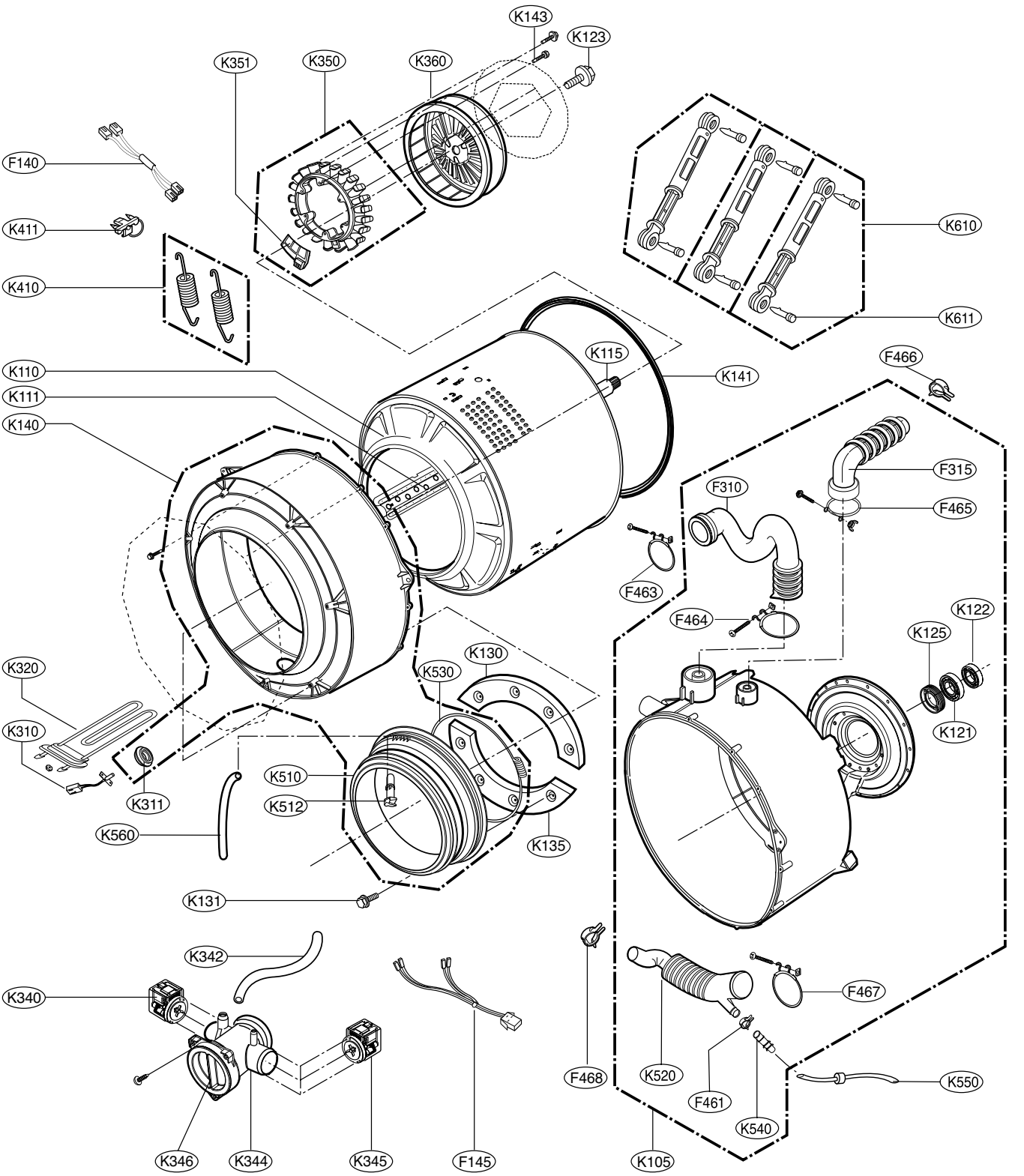
10-1. CABINET & CONTROL PANEL ASSEMBLY

: Service Part

: Non-Service Part



10-2. DRUM & TUB ASSEMBLY



10-3. DISPENSER ASSEMBLY